Amendments to the Specification

Please substitute the following amended paragraphs for the original paragraphs having the same number.

[0012] Typically, a lens is positioned at a Z-distance corresponding to a height at which the disc is in optimum focus. An understanding of the orientation of the Z axis along which the Z-distance offset is adjusted is provided in Figure 5 ~~5B~~. The Z-distance of optimum focus may be determined based on a peak in a sum signal returned to the lens, as later described in detail. However, when creating a label designed for readability by the human eye, a Z-distance other than optimum focus may be desired, i.e., defocusing the laser beam may allow better image quality and/or faster printing.

[0037] In a first step 110, a desired Z-distance offset Z_{OS} is predetermined. For example, if the initial Z-distance of the lens is defined as 0μm, a Z-distance offset may be defined, for example, between about -80μm (i.e., toward the disc) and about +20μm (i.e., away from the disc). In step 120, which may be either after step 110 or simultaneous therewith, a substantially fixed voice coil slew rate is applied to the lens 230 (shown in Figure 5 ~~5A~~) to move the lens 230 through vertical range which includes a Z-distance of optimum focus Z_{OF}. As the voice coil slew rate is applied to the lens, the sum signal versus time reflected by the disc to the sensor is monitored, as shown in step 130. Upon obtaining the sum signal, the peak corresponding to the Z-distance of optimum focus Z_{OF} is identified in step 140. From the rise time and/or fall time of the peak in the sum signal, the sum signal slew rate may be calculated in step 150. In step 160, upon calculating the sum signal slew rate, the voice coil gain may be calculated using the input voice coil slew rate and the calculated sum signal slew rate. Once the voice coil gain is determined, the voice coil gain may be used along with the desired Z-distance offset Z_{OS}, to calculate the coil voltage offset ΔV_{OS}, in step 170. Finally, in step 180, the coil voltage offset ΔV_{OS} may be applied to the coil voltage at optimum focus V_{OF} to yield an offset coil voltage V_{OS}.

[0039] The aforementioned method may be comprised in a program product embodiment which, in turn, may be comprised in a CD drive, a DVD drive, or other optical (or non-optical) drive embodiment. For example, a microcontroller (which may be an adjustment mechanism 240, as shown in Figure 5 ~~5A~~), comprising a programmed product, may control the radial and/or Z-distance movements of the lens 230 with respect to the disc 220. In addition, the microcontroller program product may also control the coil gain and/or Z-distance offset calculations (including averages, regressions, etc.) at each location on the disc as well as the number of samples from which these calculations are derived. In other words, a microcontroller may comprise a program product configured to perform the aforementioned Z-distance calibration method steps.